



# Ground Vehicle Power & Mobility Information Exchange Annex (IEA) Scope Discussion

## Tank Automotive Research, Development & Engineering Center

Mr. Herb Dobbs



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# Introduction



- In accordance with the Master Information Exchange Agreement (MIEA) between the Ministry of National Defense of the Republic of Korea and the Department of Defense of the United States of America, signed 13 October 2009, the following Information Exchange Annex (IEA) is hereby established.



# 1. Project Description and Classification



- A. This Annex provides for the exchange of scientific and technical information of mutual interest on ground vehicle power mobility and energy, and related systems integration issues.

- **Main Engines**
  - Diesel
  - Combustion process models
    - Turbochargers
    - Engine controls
  - Gas Turbine
- **Electric Propulsion**
  - Rotating machinery
  - Power electronics
  - Electric drive control systems
  - Electric drive cooling
- **Energy Storage**
  - Electric drive batteries
  - Starting batteries
  - High power batteries
  - High Energy batteries
  - Ultracapacitors
  - Battery management and cooling systems

- **Powerplant Integration**
  - Transmissions and driveline systems
  - Military air cleaners
  - Powerplant cooling systems
  - Crew and electronic mission equipment cooling
  
- **Non-primary Power Systems**
  - Auxiliary Power sources
    - Small Engines
    - Fuel Cells
    - Reforming Logistic Fuels for Fuel Cells
    - Unusual power sources
  - Vehicle power distribution and management
    - Electrical load modeling
    - Intelligent power management
    - Wireless power distribution
  
- **Track and Suspension**
  - Active and semi-active suspension and control
  - High-speed track
  - Rubber compounding for track systems
  - Tracked vehicle suspension modules
  - Tires
  - Chassis control



# Defense Exchange Agreement (DEA )

## Potential Scope Subjects



- **Transportation Energy Security**

- Bi-directional vehicle power transfer
- Electric vehicle support equipment
- Deployable microgrid hardware
- Microgrid design and planning software
- Hydrogen vehicles and refueling demonstrations
- Vehicle interconnection standards
- Demonstration and militarization of commercial advanced propulsion vehicles





# Information Exchanges



- B. Exchanges of R&D Information under this IEA shall be on a reciprocal, balanced basis such that the R&D Information exchanged between the Parties shall be of approximately equivalent value, quantitatively and qualitatively, in accordance with Article II (Objective and Scope) of the MIEA.
- C. All R&D Information exchanges under this IEA shall conform with the provisions of the MIEA, including the prohibitions against the exchange of weapon, sensor, or related system computer software, weapon, sensor, or related system computer software documentation, exchange of Production Information, and exchange or provision of defense articles or services contained in Article II (Objective and Scope) of the MIEA.
- D. Correspondence and requests for R&D information shall be handled in accordance with Article IV (Channels of Communication and Visits) and Article IX (Security) of the MIEA.
- E. This IEA provides no authority for placing contracts in accordance with Article VI (Contractual Arrangements) of the MIEA.
- F. R&D Information shall not be used by the receiving Party for any purpose other than the purpose for which it was furnished without the specific prior written consent of the originating Party in accordance with Article VII (Disclosure and Use of R&D Information) of the MIEA. Unless specifically permitted under the provisions of paragraph 4. below, R&D Information exchanged under this annex is to be used by the receiving Party's government employees and contractor support personnel solely for information and evaluation purposes for its national defense.

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- **Establishments and Authorities Concerned**

- **A. For the United States:**

- **1. Establishments**

- ❖ **Joint U.S. Military Affairs Group – Korea**

- JUSMAG-K, Unit # 15339, APO AP 96203-0187

- ❖ **Director**

- Armaments Cooperation**

- Office of the Deputy Assistant Secretary of the Army for  
Defense Exports and Cooperation

- ATTN: SAAL-NC

- 1777 Kent Street, Suite 8200

- Arlington, VA 22209

- ❖ **U.S. Army RDECOM-TARDEC**

- 6501 E. 11 Mile Road

- Warren, MI 48397



# Establishments and Authorities



## ➤ 2. Authorities

### ❖ **Project Officer:**

Director, Armaments Cooperation  
Office of the Deputy Assistant Secretary of the Army,  
Defense Exports and Cooperation  
ATTN: SAAL-NC  
1777 Kent Street, Suite 8200  
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# Establishments and Authorities



- B. For the Republic of Korea:

- 1. Establishments

- ❖ Agency for Defense Development

- The 5<sup>th</sup> R&D Institute

- Yuseong P.O. box 35-5

- Daejeon, 305-600

- Korea

➤ 2. **Authorities**

❖ **Project Officer**

Agency for Defense Development

The 5<sup>th</sup> R&D Institute

Yuseong P.O. box 35-5

Daejeon, 305-600

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❖ **Technical Project Officer**

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Agency for Defense Development

The 5<sup>th</sup> R&D Institute

Yuseong P.O. box 35-5

Daejeon, 305-600

Korea

❖ **Associate Technical Project Officer**

- A. The highest classification of R&D Information which may be exchanged under this IEA is Controlled Unclassified Information
- B. All R&D Information exchanges under this IEA will conform with the security and information control provisions of the MIEA included in Article VII (Disclosure and Use of R&D Information), Article VIII (Controlled Unclassified Information), Article IX (Security), and Article X (Third Party Transfers).
- C. Annual R&D Information objectives may be specified if appropriate. These objectives may be established through exchange of correspondence by the TPOs and will be revised annually by the TPOs to reflect current technology considerations.



## 4. Special Disclosure and Use of Information Provisions



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## 5. Financial Responsibilities



- Each Party shall be responsible for its own costs in performance of this IEA an accordance with Article V (Financial Arrangements) of the MIEA.





## 6. Termination and Duration of this IEA



- A. This IEA may be terminated at any time by the written consent of both Annex Authorities, who shall consult at the appropriate level prior to the date of termination to ensure termination on the most equitable terms. In the event a Party's Annex Authority finds it necessary to unilaterally terminate the IEA, it may terminate upon 60 days written notification to the other Party's Annex Authority. Termination of this IEA shall be subject to the provisions of Article XII (Amendment, Termination, Entry Into Force, and Duration) of the MIEA.
- B. This IEA shall remain in force for a period of five years from the date of the last signature unless amended or extended by mutual written consent. Before the expiration of this IEA, the Annex Authorities shall review the IEA and may, by mutual written consent, extend the IEA for additional periods of up to five years.